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THE SIX-YEAR HIGH SCHOOL

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In traveling over the main line of the Pennsylvania Railroad I have noted with interest the marvelous changes that have been made in recent years in the roadbed of this great highway. What impressed me most forcibly was the fact that for a large part of the way the old roadbed has been abandoned. It was built when the world moved much more slowly than it does today. Time was plentiful and money was scarce. It was cheaper to build a crooked railroad, winding around the hills instead of cutting through them, following long curves of the streams to save the expense of building bridges, and crossing the streets of towns and cities at grade. In recent years the railroad has spent many millions of dollars to dig tunnels and cuts, build embankments and bridges, and elevate or depress tracks in cities. Once the question was: "Which is the easiest and cheapest way to build the road?" Now the question is: "Which is the most direct low-grade line?" Once the aim was economical construction; now it is economical transportation. The efficient handling of traffic had to be secured though it meant abandoning the old line and building a new.

The educational roadbed over which our pupils travel in the public schools was originally laid out in much the same way that the original railroads were planned. Much that exists in educational procedure today is there simply because it was the best that could be afforded at the time it was instituted. The country was poor. Educational expenditures were small. Equipment was meager. Buildings were inconvenient and unattractive. Books were scarce and costly. School terms were short. Teachers were poorly trained and worse paid. There was no general supervision and, therefore, each community had its own peculiar type of school organization. Many of these still survive. They have no relation

to present conditions. They are what they are simply because they started at a time when, owing to circumstances, nothing better could be done. The tendency of human nature to follow the beaten track explains the rest. But the same business advance that is straightening out the railroad tracks is putting more direct methods into the schools. The same business foresight that throws into the scrap heap fairly efficient machinery and puts in its place the finest modern apparatus is coming into our schools, breaking down our fairly good plans of organization and putting in their places the finest devices of the most skilful educators and administrators.

The prevailing practice of having *eight* grades in the elementary schools and *four* grades in the high schools is not the result of a deliberate plan based upon sound educational principles, but is due largely to the fact that the private schools and colleges were flourishing institutions long before free public schools had made much headway. At first the public school had no definite goal in mind. There was no clearly planned course of study and the grade of instruction varied with the abilities of the successive teachers. The quality of the work slowly rose until the best work in the public schools reached the standards of the academy. Pupils who had been in the public schools about eight years were able to enter the academic work proper. The academy has since given way to the public high school but the meandering eight-year elementary course which led to the academy is still used in reaching the high school.

"Why has the giraffe such a long neck?" asked the teacher. "Because his head is so far away from his body," was the small boy's answer. Why has the elementary school so long a course? Because the high school is so far away from the first grade. The vital considerations were not thought of when the present practice was established. The fact that the mental, physical, and spiritual life of the child undergoes a marvelous change between the ages of twelve and eighteen; that there are certain peculiarly favorable periods for the study of certain subjects; that pupils vary greatly in special aptitudes and therefore need an experimental period in which to test various lines of work before selecting a definite higher course of study; the need of a transition period from the one-teacher régime to the departmental plan in the high school; these,

and a multitude of similar considerations which should determine the organization of our schools, have received little or no attention in determining the subdivision of public-school work in the eight years of elementary and the four years of high-school training. The lack of a sound basis for the present plan has become plainly evident under the critical studies of scientific investigators. Thoughtful students of education are breaking away from the 8-4 arrangement because they find that it is a piece of educational machinery of too low an efficiency for use in a modern school system. This unrest has given rise to a large variety of experiments. Gary, Ind., carries the pupil forward for ten years in one building and follows this with two years in a separate high school. Denver has the 8-1-3 plan, using the ninth school year to make the transition from the elementary to the high school. Muskegon, Mich., uses the 7-5 plan; Kalamazoo modifies it into the 7-3-2 plan. Another group, including part of New York City, follows the 6-2-4 plan. Finally, a considerable number, including Los Angeles, Grand Rapids, Evansville, Ind., report that they are using either the 6-6 plan or the 6-3-3 variation of this plan.

If I read the signs aright, in all of this experimentation there is a rather strong drift toward an ultimate settling upon a six-year elementary-school course, followed by a six-year high-school course, but with the latter divided into two rather distinct periods of three years each, thus constituting a junior and a senior high school with the definite purpose of making the junior high school the connecting link between the elementary school and the formal high school. The elementary course is also, to some extent, marked off into two three-year periods but the line of division is not so great as to require separate organization for proper handling.

Briefly, then, the tendency seems to be strongly toward changing from the 8-4 to the 6-3-3 plan. Frankly, I confess that when the thing was first suggested, I did not see what there was to gain by the change. It looked to me like an attempt to make something out of nothing by juggling figures. There is a total of twelve years of schooling in either case. It seemed like saying that, if I had eight dollars in one pocket and four dollars in another, I should in some mysterious way be better off if I redistributed it so as to have

six dollars in one pocket, three dollars in another, and three dollars more in a third.

But a child's mind is not so much like a pocket as like a garden, and what it contains does not so much resemble dollars as plants. Neglected, this garden grows up in noisome weeds of ignorance and vice. Cultivated, it produces plants of use and beauty. What the crop shall be and what it shall be worth depends very largely upon the school. In the school life of the child there are two strongly differentiated growing seasons of equal length, each with its own most suitable crop and requiring its own special method of cultivation. The first matures when the boy is twelve and the second when he is eighteen years of age. The mistake we make is that we take eight years of time to raise a six-year crop, and much of it spoils from withering or overripeness. For the second six-year crop, only four years remain, and it fails to mature. It is in this sense that the 6-6 plan is vastly better than the 8-4 plan.

The six elementary years when scanned closely are seen to consist of two three-year periods. At first the attention of the pupil is in large measure fastened upon what may be termed the mechanics of education. By the end of the third grade the average child writes as legibly as he ever will. He has mastered the mechanism of the reading process and can add, subtract, multiply, and divide with numbers of fair size. In other words, he has opened the door of the three R's.

In grades 4, 5, and 6, the mechanical ability acquired in the first three grades is put to use in knowledge-gathering. The pupil uses his ability to read in the study of geography, elementary history, and juvenile literature. He extends his mathematical thinking from whole numbers to fractions, common and decimal. He learns the common weights and measures, and applies his knowledge in arithmetic to the common activities of everyday life. He handles the pen more freely and can now use it to a considerable degree as a means of expressing his thought. Composition and letter-writing have held an important place in his work. To sum it up, he has passed over the threshold and taken possession of the three R's.

He is now twelve years old. It is a critical moment. His

future career depends in large measure on what we do for him in the next three years. He feels the first impulses of adolescence driving him to new interests, ambitions, and activities. Much that once interested him greatly now begins to appear flat, stale, and unprofitable. If we choose to do so, we can keep him working with the same old material in the same old way. The compulsory law gives us possession of him for two years longer and he has to submit. But, if we do, we need not wonder that he becomes dissatisfied and leaves school as soon as he reaches the age of fourteen. He is tired of childish studies and childish methods and goes to work in order to "get a chance to do something worth while." Whether or not a pupil remains in the school past his fourteenth year depends very largely on what is done for him in the seventh and eighth grades. At the very best the period from twelve to fifteen is full of whims and restlessness, and many will drop out of school in spite of our best efforts. Under the 8-4 plan the break in his school career comes in the very midst of this critical time. The compulsory attendance law loosens its grip just when he completes his elementary course. Given a restless boy, a change of schools, and the legal right to leave school, all meeting at the same time, and you have a coincidence that is responsible for much of the tremendous shrinkage in numbers between the eighth and the ninth grade. Postpone the change of schools for a year and you break this dangerous combination. If at the same time we plan the work so as to hold his interest to fifteen, we can probably hold him longer. The mind of the twelve-year-old has a powerful craving for something new and different. Through the junior high school we can do much to meet this perfectly normal desire. The subjects of study have a broader range, a more practical bearing, and a more vital interest. Attention need no longer be concentrated upon the three R's for their own sake. They have become merely the means for more advanced educational endeavor and accomplishment. To read, to spell, to write, to handle whole numbers and fractions—these processes have in large measure become automatic. Arithmetic is now applied to more and more varied phases of life, and at last leads out into the generalized processes of algebra. English literature and the technique of the language receive definite atten-

tion. This is a favorable time for those who are looking to higher academic training to begin the study of a foreign language. Myths, legends, and anecdotes give way to formal history. Geography takes a more scientific form. Biology supplants elementary nature-study. Elementary physics and chemistry may now be introduced. Drawing takes on more specialized and practical forms. Cooking and other phases of domestic economy for girls and varied types of shopwork for boys give an outlet to their strong desire to do practical things. Physical training, especially adapted to their peculiar needs, can now be given.

It is plain that this varied program cannot be carried on under the one-teacher plan that has prevailed in the first six grades. A modified form of departmental work should be used, not only because the work can thus be done better but because it is highly desirable to go by easy stages into the full departmental plan of the senior high school. The confusion and bewilderment caused by the sudden plunge from the one-teacher régime of the elementary school to the departmental plan of the high school has been responsible for the failure and withdrawal of many first-year high-school students. The junior high school gives an excellent opportunity to make an easy transition from one plan to the other.

Of the place of the senior high school in this plan I need speak but briefly. It would differ but little from its present type of organization and curriculum. The junior school has given the pupil an opportunity to try out varied lines of interest. He is now better prepared to choose his course wisely. His past three years have given him some guidance in determining whether he shall take up academic, commercial, manual, or trade work. He fits in the work because he has grown, and not been thrown, into it. Where this plan has been tried, high-school attendance has greatly increased. This tells its own story.

But the question will naturally come, "Is the new plan costly? Can we afford to use it?" Consider for a moment the following matters. The seventh and eighth grades are usually the smallest in a school. Frequently there are so few pupils of these grades in our smaller schools that they cannot be well classified and organized. Collect in one building these weak classes from several schools and

you have at once sufficient numbers for proper and economical handling, probably with some saving in the teaching force. Our high schools are costly institutions to run. In Philadelphia the total cost of teaching a pupil in the high school is between three and four times as great as it is in the elementary schools. More than one-third of the pupils now in high schools are in their first year. Join these to the seventh- and eighth-grade pupils to complete your junior high school and you make another material reduction in the cost of instructing this large group of students. There is reason to believe that the junior high school will enable us to do better things and save some money at the same time.

Briefly to summarize, the following are among the advantages of the 6-3-3 plan:

1. It fits the work more closely to the pupil, thus retaining many who formerly dropped out from lack of interest.
2. It shifts to a less dangerous period the change of schools which now occurs just when the compulsory law loses its hold.
3. It provides easy transition from the one-teacher régime to the departmental plan.
4. It provides a definite period in which interests and aptitudes may be tried out, thus lessening the number of educational misfits in the higher courses.
5. It tends to reduce waste in the matter of equipment and teaching force, thus giving the community a larger return for its educational expenditures.

The lines have been surveyed and located for a better educational roadbed for boys and girls. It means the abandonment of some of the old right of way, but each suggested change is for the better. It does not require additional funds; indeed there may be some saving. When we make these matters clear to our boards of education and to the community, the road can be put in operation and we shall be one step nearer to an ideal school system.